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AUTHOR Olshavsky, Jill Edwards; Kletzing, Karen
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ABSTRACT

To determine whether poor readers can predict as well as good readers when they read easy material and to determine the effect of material difficulty on predictive ability, a study involving 140 tenth and eleventh graders was conducted. The subjects were randomly selected, with 70 good readers chosen from students who scored at stanines 7, 8, or 9 on the "Stanford Diagnostic" Reading Test and 70 poor readers drawn from those who scored at stanines 2, 3, or 4. Each subject read two short stories which had been selected according to length, readability, and writing style. Each story was divided into five sections; multiple choice questions accompanied each section. After every two sections a page was inserted for the subject to write what would occur next. Results showed that good readers have more accurate predictions than poor readers and that readers have more accurate predictions with concrete-style material than with abstract-style material. Further research should investigate the process by which a reader can predict the author's syntax . content. Research should also investigate whether prediction is a necessary process for comprehension. If it is, ways of teaching it should be explored. (FL)

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Prediction: One Strategy for Reading Success

Dr. Jill Edwards Olshavsky

Reading Department, rm. 211
School of Education
Indiana University
Bloomington, Indiana 47401

Karen Kletzing

Bloomington High School North

Paper was presented as a research report at IRA, Houston, 1978

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Dr. Jill Edwards Olshavsky
Reading Department, rm 211
School of Education
Indiana University, Bloomington, Ind. 47

Prediction: One Strategy for Reading Success

Reading comprehension requires the reader to process visual symbols and to integrate the author's message with his own prior knowledge. The strategies the reader uses to comprehend may be a crucial determiner of his success. Goodman (1970) states that reading is an active process in which the reader uses strategies of sampling, predicting, confirming or rejecting and integrating information. The prediction strategy is one of key importance in the comprehension process because it implies that the reader is not only comprehending the author's literal message but also is going beyond the information given to predict the content and the way the author will present it. Herber (1978, p. 181) defines prediction as ". . . an intellectual or emotional extension of one's knowledge and experience into the unknown, under the constraints of specific conditions or actions." Fredericksen (1975) found that readers make inferences while they are reading, and their consequent semantic structure is derived from the text but is not expressed in the text. Smith and Barrett (1976) classify prediction as convergent inference.

Prediction is a necessary component of comprehension because the reader must narrow his alternatives in order to process information within the constraints of short term memory (Smith, 1975). Prior knowledge about a topic can help a reader call forth his expectations as to the author's message and allow him to interpret the material within an appropriate frame of reference. Anderson (1976) found that procedures which force a reader to predict facilitate learning.

Previous research (Olshavsky, 1976-1977) identified the prediction strategy by analysis of readers' verbal protocols about their ongoing reading behavior and found good readers predict more frequently than poor readers. This finding may indicate a difference in the comprehension process of good and poor readers, or it may reflect the inability of poor readers to predict because of difficulty reading the material.

The first purpose of this study was to determine whether poor readers can predict as well as good readers when they read easy material. It was expected that good readers would make more accurate predictions than poor readers because their more frequent use of prediction implies they find prediction a successful strategy and because we expect prediction to be a significant factor in distinguishing good comprehension.

H_1: Good readers will have more accurate predictions than poor readers.

The second purpose was to determine the effect of material difficulty on predictive ability. If ability to comprehend affects prediction, the style or way in which the author presents his message is a crucial factor. A direct or concrete style would be easier to comprehend and therefore would be expected to lead to more accurate predictions than an abstract style. Anderson (1976) found that when abstract terms are modified with concrete words, learning the sentence is facilitated. The effect of an abstract and concrete style on prediction was investigated.

H_2: Readers will have more accurate predictions with concrete style material than with abstract style material.

Design

To test these hypotheses, a 2 x 2 analysis of variance design with repeated measures was employed. The repeated measures design provides control over individual differences between experimental units (Winer, 1962). The factors were reading proficiency: good and poor and writing style: concrete and abstract. Each subject read abstract and concrete style material. The dependent variables were scores on multiple choice prediction questions and the subjects' written predications.

Subjects

One hundred forty tenth and eleventh grade students at a high school in a small midwestern city served as the subjects. The good readers (70 subjects) were selected randomly from the students who scored at stanines 7, 8, or 9 on the Stanford Diagnostic Reading Test, level III. The poor readers (70 subjects) were selected from those who scored at stanines 2, 3, or 4 on the same test.

Material

Each subject read two short stories. These stories were selected according to three criteria: length, readability, and writing style. The length of each story was approximately 1200 words. To control for readability, the stories were selected from a high interest, low vocabulary series written at second to third grade level. Although it was essential to assure that both groups comprehended the story equally well, it was not possible to test the subjects' comprehension of the stories without affecting the dependent

variable of predictive ability. Therefore, a cloze test on the stories was administered to a small group of good and poor readers. There was no significant difference in their performance indicating good and poor readers could comprehend the stories equally well. The stories were also selected so one represented an abstract style and one a concrete style as defined by Carroll (1960) in a factor analytic study of style ratings. A concrete style is a straightforward, simple means of expressing an idea with short sentences and familiar words. An abstract style is often an original or unusual means of expressing an idea. To reliably select one abstract and one concrete story, six raters (each with high school English teaching experience and graduate course work in reading) read the definitions of the two styles and ranked six short stories which met the first two criteria from abstract to concrete. Five of the six raters agreed on the abstract story; four of the six raters agreed on the concrete story.

Each story was divided into five sections, and multiple choice questions (ten per story) were written for each section. After two of these sections for each story, a page was inserted for the subject to write what he thought would occur next. (Directions: "Write what you think will happen next in the story") In order to insure the multiple choice questions were passage dependent, twenty three ninth grade good readers answered the twenty questions without reading the story (a procedure similar to Pyrczak and Axelrod, 1976, was used). Their answers were analyzed using chi square analysis to determine that the responses were significantly different from chance.

Data Collection

The stories and questions were given to the subjects during two periods in their English class. The stories were given in rotated order so that half the subjects read the abstract style story first, and half read it last. Each of the five parts of the story with questions was distributed to and collected from each subject individually so that the subject had only one part of the story at any given time.

Data Analysis

The multiple choice questions were scored as correct or incorrect. Each question was worth 10 points, and each subject received a score between 0 and 100%. Each researcher independently assigned a score from 1 to 5 to the written responses based on their correctness and plausibility. Each of the two written answers was worth a maximum of 50 points.

Results

Analysis of variance with repeated measures on the multiple choice scores revealed reading proficiency was significant ($F=5.17$, $p < .05$), and style was significant ($F=52.1$, $p < .01$). The interaction effect was not significant ($F=.05$). With the written responses, reading proficiency was significant ($F=5.3$, $p < .05$), and style was significant ($F=48$, $p < .01$). The interaction effect was not significant ($F=1.5$). See Table 1 for graphs of the scores.

The results supported both of the hypotheses. Good readers had significantly more accurate predictions than poor readers with both

the multiple choice and written response formats. The concrete style story lead to significantly more accurate responses from all readers.

Discussion

The results indicate that good readers are able to predict the events of an abstract or concrete style story more accurately than poor readers. It is possible that the difference could be due to better comprehension by the good readers. We can assume, however, that both groups of subjects were able to read the material equally well because easy material was selected and a pre-test indicated that another group of good and poor readers comprehended the stories equally well. An independent test of this assumption such as a built-in comprehension test would have been valuable. It was not possible to include such a test, however, because it would have interfered with the measure of predictability. Based on the assumption that both groups comprehended the stories equally well, the results reveal an important difference in the reading process of good and poor readers.

The results of this study, showing that good readers are better predictors combined with the finding in an earlier study that good readers formulate hypotheses more frequently may imply a basic difference in the reading processes of good and poor readers. The poor reader may be content to read at a literal level, comprehending only what the author gives him, whereas the good reader not only comprehends what he reads but also uses inferential thinking to read ahead or grasp the intentions of the author. This result relates to H. Smith's (1967) finding that a basic difference between good and poor

readers is their flexibility to read for different purposes. This difference, the ability to predict, may represent a basic difference in the reader's understanding of his task. It may also explain the poor reader's inability to advance to more complex reading levels.

The finding that the concrete style story lead to more accurate predictions for both the good and poor readers can be explained in several ways. It is necessary to note, however, that a limitation of the study was that only one story was used to represent each style. It is possible that, in addition to the stylistic difference, the stories differed in predictability. Concrete style material may have been more predictable because it was more familiar to the subjects. Most high school texts are written with a concrete style. The students may have been more capable of predicting the sequence of events with this style. By definition, the concrete style presents information directly. It may be that this style is easier to comprehend at a literal level, thereby allowing the reader to make inferences based on that understanding.

Implications exist for research and teaching. Further research should investigate the process by which a reader can predict the author's syntax or content. As with the cloze procedure, this research demonstrated that readers are able to think beyond what is written and anticipate a logical sequence of events. Research also can investigate whether prediction, an important difference in the ability of good and poor readers, is a necessary process for comprehension. If prediction is an essential strategy, ways of teaching it can be explored. It may prove desireable to teach prediction initially using concrete-style material which allows the reader to be a successful predictor.

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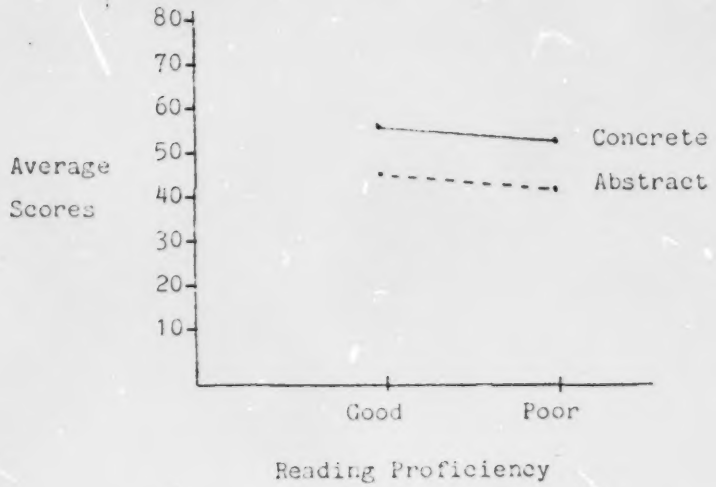
Table 1

Average Scores on Multiple Choice and Written Response Questions for Good and Poor Readers

Multiple Choice Scores



Written Responses